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B. L.

# MEASURING DISPERSED USE AND VISITOR PREFERENCES ON THE BUREAU OF LAND MANAGEMENT'S NATIONAL RESOURCE LANDS

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Progress Report

for project entitled

# Measuring Dispersed Use and Visitor Prferences on the Bureau of Land Management's National Resource Lands

submitted as required by

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between

Bureau of Land Management
and
Rocky Mountain Forest and Range Experiment Station
U.S. Forest Service

and

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between

Colorado State University
and
Rocky Mountain Forest and Range Experiment Station

by

B. L. Driver, Recreation Research, Project Leader
Rocky Mountain Forest and Range Experiment Station

and

P. J. Brown, Chairman
Department of Resource Recreation Management
Oregon State University

Prepared by Ross Arnold
Project Director

and

Lynn Udick
Research Assistant

Fort Collins, Colorado
April 1, 1981

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# KING RANGE USE DATA
# PROGRESS REPORT

## I. INTRODUCTION

During FY79 the Bureau of Land Management (BLM) provided research funds to replicate a procedure used in previous studies on public land (Arkansas River/Little Sahara). The original procedure was developed to implement Objective 2 of the Revised Research Proposal of July 1976, submitted by the Rocky Mountain Station (RMS) and Colorado State University (CSU) to the BLM. Objective 2 stated that the RMS would "develop a procedure using field observation and on-site surveys, including traffic counters and road stops, to quantify outdoor recreationists' preferences at areas used intensively for dispersed recreation." The King Range National Conservation Area was selected as the site for replication of the research using FY79 funds. One sub-objective of that research was to measure and quantify recreation participation using exit (roadside) interview data and inductive loop counter information in the King Range. This report summarizes the results of the analyses performed on data gathered during the exit interview procedure.

### Exit Interview

The primary objective of the exit interview procedure was to collect the names and addresses of a representative sample of King Range recreationists to build a sample frame for the mail questionnaire. This field contact was also used to collect information concerning a users' primary recreation activity, including the location(s) and length of participation in the study area.

Interviewing Procedures

In contacting King Range recreationists, an interview technique proven in various recreation environments over the past three years was used. That technique required contacting recreationists at interview locations along roadsides as they were leaving the study area (Figure 1). These locations are designated in Figure 1 by a letter next to an X enclosed in circle. The four stations were Thorn Junction (T), Petrolia (P), Honeydew (H), and Four Corners (F). Figure 1 also shows the study area zones. Zone selection was accomplished with help from BLM planners in Ukiah, and closely approximates the zone structure outlined in the King Range Proposed Management Program. Zone 8 was added to provide better information about beach use in the beach corridor north of Shelter Cove. Due to the difficulty of selecting a roadside interview location and expected low levels of recreation participation, zone 5 (not shown in Figure 1) south of the Four Corners interview station was not included in the study area for this research.

Vehicles were stopped for interviewing only when the interviewer had completed the previous interview and could safely extract a vehicle from the normal traffic flow. Once a vehicle was stopped, the interviewer proceeded with the interview according to a predetermined set of decision rules specifying the questioning procedure.[1] The interviewer approached and questioned either the driver or a passenger based on a systematic routine for identifying the interviewee, and conducted the interview while the respondent remained in the vehicle. The reason for shifting the interview from the driver to a passenger was to obtain a more representative list of area users. The drivers exiting recreation areas tend to be males and heads of households. Because our interests are in the opinions and preferences of other users as well,

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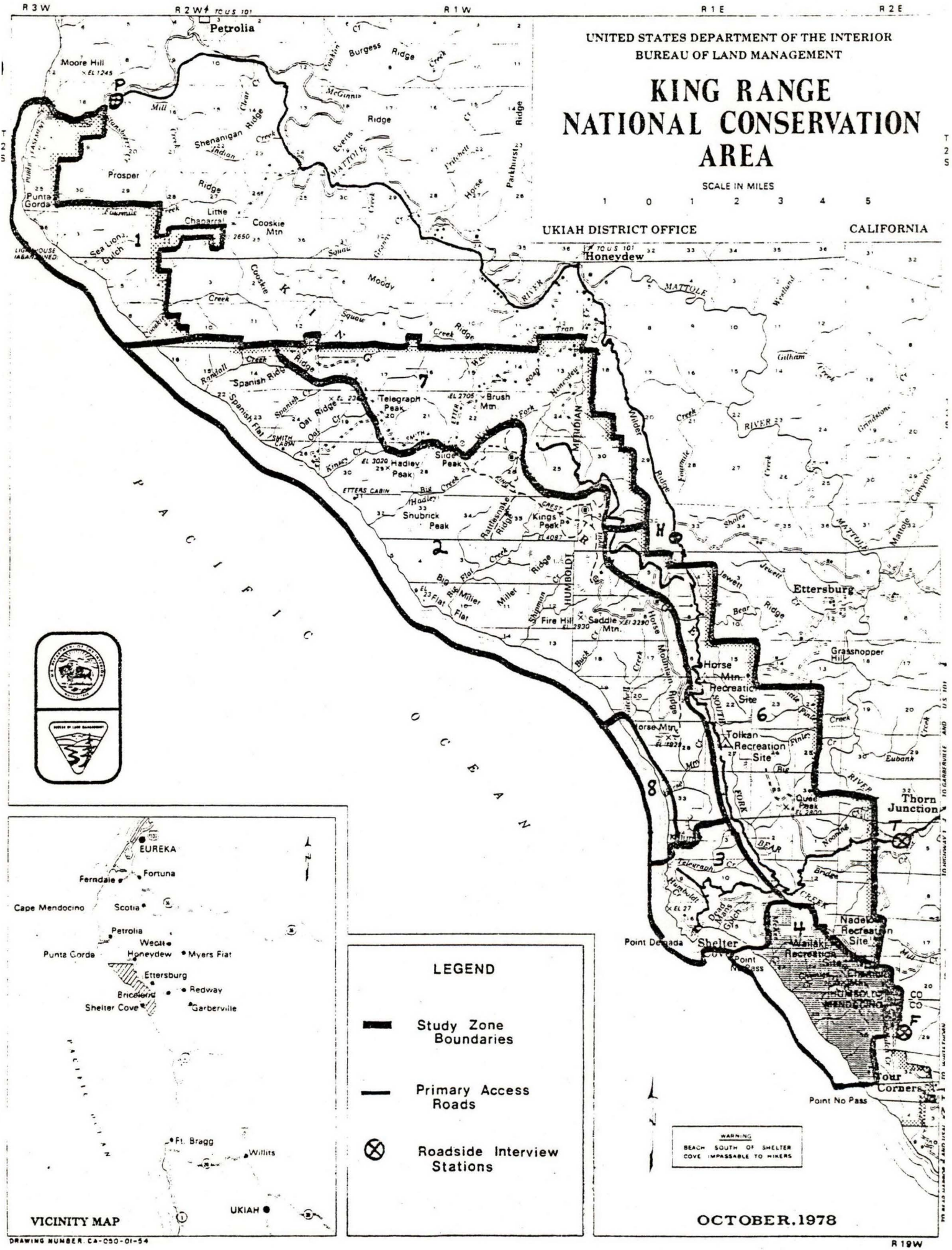
[1]Refer to the Interviewer Instructions in Exhibit B of this report.

Figure 1. Map of study area.



a practical compromise for obtaining a representative sample was to systematically shift between a driver and a passenger, etc. The interviewee was asked to cooperate in the study and to supply a name and address for follow-up questionnaires. Other passengers in the vehicle were asked for their names and addresses if they resided in a different household than the primary respondent. Any people refusing to participate were thanked for their time and allowed to proceed. The average interview time was approximately two minutes.

Sampling Design

The sample design used was a stratified random sample clustered by days. The stratification structure partitioned the target population into homogeneous groups based on interview stations. A second stratification was used to isolate weekend, weekday, and holiday users. The size of sample selected from each stratum was proportional to the population (in this case, vehicles or parties passing by the interview station) of that stratum. Within the strata were clusters comprised of days. Each cluster consisted of a day, with the elements of that cluster defined as the population of recreationists exiting the study area on that day. A sample of clusters was taken from the whole sampling period by selecting specific sampling dates. Once the sample of clusters was selected, the actual interview time period within each cluster represented a subsample of the elements of that cluster.

The sampling scheme[2] and the use statistics generated from the survey were limited to the extent that the sample sizes selected for each sampling period could not be estimated from population variance estimates for the variables included in the study. Sample sizes with specific variance estimates

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[2]Refer to the study plan dated July, 1979, for more details about the sampling plan (times and locations).

can be calculated for surveys in areas where previous studies have defined, measured, and produced population variance estimates of the same variables to be quantified in a new study. Since data for specific variables needed to produce variance estimates were not available for the study area selected, sample size estimates determined for this study were primarily a function of vehicular volume estimates provided by the BLM in Ukiah, budgetary constraints, the judgments of research personnel, and RMS statisticians advising the study. Further studies will benefit from variance estimates generated ex post facto from this study.

## Questionnaire

When users were stopped as they were exiting the study area, a short, one-page questionnaire (exit interview form)[3] was used to record their responses. The respondents were first questioned as to whether or not they were primarily on a recreation excursion. Respondents not on a recreation trip were thanked for their time and directed back to the highway. For those recreating in the study area, information was obtained concerning most important recreation activity, location of participation, time spent in study area zones, and previous visits to the area in the past 12 months, as well as names and addresses, including zip codes. Observations also were made of the type of vehicle, and number of people in the party and vehicle.

## Sample Data Analysis

The sample data collected on each exit interview form at the roadside interview stations were coded, keypunched on computer cards, and verified during October, 1979. Data from 495 recreation interviews were analyzed using the Statistical Package for the Social Sciences[4] (SPSS) computer programs.

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[3]Exhibit B, Figure B-1.

[4]Nie et al., 1975.

Several statistical programs (frequencies, crosstabs, and breakdowns) from SPSS were used to produce descriptive and summary statistics on selected questionnaire data. These statistics included the number of responses, percentages in each response category, means, and rank orders. Calculation of each of these statistics is discussed below.

The determination of the number of responses, percentages, and means was straightforward. The number of responses pertains to a count of the respondents answering in a particular response category for each question. A percentage in a response category was determined by dividing the number of responses in that category by the total number of responses across all response categories for that question. The mean (average) response to selected questions was computed by dividing the sum of all the responses by the number of respondents.

Rank orders are reported to indicate the relative importance (highest to lowest) of a series of scores or numbers listed in the tables of this report. The number of having the highest value received a rank of one with subsequent scores ranked sequentially in descending order from highest to lowest. Two or more scores with equal values were ranked the same, but were each counted individually to reflect proper ranking of subsequent data. For example, a column of rank orders might show number one rankings for each of three equal scores followed by the next score ranked fourth. That score was ranked fourth, instead of second or third, because there were three scores with higher values.

## Station Data

Table 1 displays the exit interview statistics for three of the roadside interview locations selected for summer sampling. Sampling at the fourth

Table 1. Summary of exit interviewing, by station for the King Range NCA (Summer, 1979).

| Station | Number of Interview Days | Total Hours of Interviewing | Total Traffic Exiting during Interview Periods[a] | Total Number of Interviews[b] | Total Recreation Interviews[c] |
|---|---|---|---|---|---|
| Thorn Junction (T) | 30 | 170 | 1159 | 740 | 322 |
| Petrolia (P) | 33 | 188 | 221 | 186 | 146 |
| Honeydew (H) | 17 | 102 | 42 | 39 | 25 |
| Total | 80 | 460 | 1422 | 965 | 493 |

[a]Direct count of traffic exiting each station during the interview period, summed across all interview periods by station.

[b]Total completed interviews include both recreation and nonrecreation interviews. Nonresponse is not included in this figure, but accounted for 3 percent of all interviews.

[c]Number of interviews in which respondent had engaged in recreation in the study area.

interview station, Four Corners, was discontinued due to low use levels. After 18 hours of interviewing at that station, only two recreation interviews were obtained.[5] The remaining three stations accounted for 493 recreation interviews from a total of 965 stopped vehicles. Forty-four percent of the Thorn Junction interviews, 78 percent of the Petrolia interviews, and 64 percent of the Honeydew interviews were recreation interviews in which the respondent indicated recreation participation in the study area on that trip. Overall, 51 percent of the respondents had engaged in recreation in the King Range.[6]

The total traffic exiting each interview station across all interview periods during the summer sampling period is also listed in Table 1. The total number of interviews is less than the total traffic at all stations since vehicles are allowed to pass by while an interview is in progress. The rate of traffic flow (total traffic divided by total hours of interviewing) at Thorn Junction station was highest, followed by Petrolia and Honeydew.

Across the 92 day summer sampling period interviewing occurred at Thorn Junction on 33 percent of the days (30 days), at Petrolia on 36 percent of the days (33 days), and at Honeydew on 18 percent of the days (17 days). These sampling percentages at each interview station are all well above the sampling levels normally achieved for this type of sampling. Further discussion of the "adequacy" and "representativeness" of the sampling in the King Range is presented in Exhibit A of this report.

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[5]The analysis of the exit interview questionnaire data includes the two interviews from the Four Corners station, which brings the total number of recreation interviews to 495.

[6]Ocean fishing from a boat, for example, did not actually occur in the King Range, but was included in the recreation summary since the recreation engagement began in the King Range. When interpreting the data, it is important to remember the location of the interview stations to fully understand the meaning of the results.

## II. RESULTS

### Sample Data Results

Respondents questioned during the exit interview procedure provided information about activity participation, area of recreation engagement, time spent in the study area, time spent in study area zones, and previous visits to the study area. In addition, interviewers observed the type of vehicle and the number of people in the vehicle and party. These data are discussed in this section.

Total sample participation in all recreation activities mentioned by respondents engaging in recreation in the King Range is shown in Table 2. Forty-one percent of the respondents visiting the King Range engaged in sightseeing/auto driving. Rank orders were assigned to activities based on the number of respondents engaging in each activity. Other activities with high participation levels besides sightseeing include hiking, ocean fishing, picnicking, and camping.

The "most important" activity of each respondent was determined by asking which activity was most important as a reason for visiting the King Range. Responses to this question form the basis for several tables in this report. It is important to be familiar with the terminology "most important" activity and with how that differs from activity participation data in Table 2.

Sightseeing, hiking, camping, and ocean fishing were all listed as most important activities by more than 5 percent of the sample (Table 3). Sightseeing is overwhelmingly the most important activity mentioned most frequently by King Range users. In combination, Tables 2 and 3 show clearly that King Range users engage in a variety of activities during their visits,

Table 2. Number of respondents sampled indicating participation in specific activities in King Range NCA study area (Summer, 1979).[a]

| Activity | Number of Respondents[b] | Percent[c] | Rank Order[d] |
|---|---|---|---|
| Sightseeing/auto driving | 204 | 41 | 1 |
| Hiking/walking (beach) | 127 | 26 | 2 |
| Camping near auto | 74 | 15 | 3 |
| Ocean fishing (from shore) | 69 | 14 | 4 |
| Ocean fishing (from boat) | 66 | 13 | 5 |
| Picnicking (beach) | 48 | 10 | 6 |
| Picnicking (other) | 35 | 7 | 7 |
| Camping away from auto (beach) | 29 | 6 | 8 |
| Collecting resource products | 28 | 6 | 9 |
| Wildlife viewing | 22 | 4 | 10 |
| Other | 22 | 4 | 10 |
| Hiking/walking (other) | 20 | 4 | 12 |
| Photography | 19 | 4 | 13 |
| Sunbathing | 15 | 3 | 14 |
| Visiting friends/family | 14 | 3 | 15 |
| Camping away from auto (other) | 10 | 2 | 16 |
| Motorcycling | 9 | 2 | 17 |
| Surfing | 8 | 2 | 18 |
| Four-wheel driving | 6 | 1 | 19 |
| Own property | 6 | 1 | 19 |
| Swimming | 5 | 1 | 21 |
| Nature study | 4 | .8 | 22 |
| Hunting | 2 | .4 | 23 |
| Bicycling | 2 | .4 | 23 |
| Freshwater fishing | 1 | .2 | 24 |
| Historical study | 1 | .2 | 24 |

[a]Since recreationists could participate in more than one activity, the percent columns will not total 100 percent.

[b]Number of respondents sampled who indicated recreation participation in listed activities.

[c]Percentage values are based on N=495 respondents answering this question.

[d]Activities are ranked in descending order based on the number of respondents in each activity. Tied scores are given the same rank.

Table 3. Most important activity of the respondents sampled in the King Range NCA study area (Summer, 1979).

| Most Important Activity[a] | Number of Respondents[b] | Percent[c] |
|---|---|---|
| Sightseeing/auto driving | 171 | 35 |
| Hiking/walking (beach) | 68 | 14 |
| Ocean fishing (from boat) | 60 | 12 |
| Ocean fishing (from shore) | 59 | 12 |
| Camping near auto | 28 | 6 |
| Other | 21 | 4 |
| Visiting friends/family | 14 | 3 |
| Camping away from auto (beach) | 12 | 2 |
| Picnicking (beach) | 11 | 2 |
| Motorcycling | 8 | 2 |
| Camping away from auto (other) | 7 | 1 |
| Surfing | 7 | 1 |
| Own property | 6 | 1 |
| Hiking/walking (other) | 5 | 1 |
| Collecting resource products | 4 | .8 |
| Picnicking (other) | 4 | .8 |
| Four-wheel driving | 3 | .6 |
| Swimming | 3 | .6 |
| Hunting | 2 | .4 |
| Freshwater fishing | 1 | .2 |
| Photography | 1 | .2 |

[a]Activities are listed in descending order based on the number of respondents.

[b]Number of respondents sampled who listed one of the activities as the most important activity to them as a reason for visiting the KRNCA.

[c]Percentage values are based on N=495 respondents answering this question.

and some activities such as wildlife viewing, photography, picnicking, and sunbathing are engaged in frequently during visits to participate in other most important activities.

The majority of the recreation participation engaged in by the King Range sample occurred in zones 1, 3, and 6 (Table 4; also refer to Figure 1 for zone locations). Sixty-one percent of the respondents visited the area around Shelter Cove during their visit to the King Range. The pattern of zone use corresponds directly with the major travel corridors through the King Range. The three high use zones all contain the major access roads. This confirms sightseeing as the major recreation activity in the area.

Another indication of participation in specific areas of the King Range was elicited from respondents when they were questioned about their most important activity. After indicating their most important activity, respondents were asked where they engaged in that activity the most (primary zone). Zones 1 and 3 continue to show the highest rates of recreation use (Table 5).

Table 6 is a synthesis of the information presented in Tables 3 and 5. It shows the most important activity for the King Range sample of visitors categorized by their primary zone of recreation participation. This helps identify the activities which are important in different areas of the King Range. For example, 35 percent of the respondents who reported zone 1 as their primary zone stated that hiking/walking on the beach was their most important activity. For users of zone 3, the activity mentioned the most was sightseeing, followed by ocean fishing from a boat and from shore. In addition to hiking/walking on the beach, many zone 1 users engaged in sightseeing, camping near the auto, or camping away from the auto.

Data from the question ascertaining the number of nights spent in the King Range by each respondent are listed in Table 7. Thirty-five percent

Table 4. Number of respondents recreating in specific zones in the King Range NCA study area sample (Summer, 1979).

| Zone | Number of Respondents[a] | Percent[b] |
|---|---|---|
| 1 | 148 | 30 |
| 2 | 13 | 3 |
| 3 | 303 | 61 |
| 4 | 23 | 5 |
| 6 | 86 | 17 |
| 7 | 1 | .2 |
| 8 | 10 | 2 |

[a]Number of respondents indicating recreation participation in one or more of the listed zones.

[b]Percent values are based on N=495 respondents answering this question. Some respondents visited more than one zone, so the percentage totals will sum to more than 100 percent.

Table 5. Primary zone in which respondents indicated recreation participation in their most important activity in the King Range NCA (Summer, 1979).

| Zone | Number of Respondents[a] | Percent[b] |
|---|---|---|
| 1 | 148 | 30 |
| 2 | 8 | 2 |
| 3 | 291 | 59 |
| 4 | 19 | 4 |
| 6 | 24 | 5 |
| 7 | 0 | 0 |
| 8 | 4 | .8 |

[a]Number of respondents indicating the listed zone as the primary zone for participation in their "most important" activity.

[b]Percent values are based on N=494 respondents answering this question.

Table 6. Most important activity indicated by respondents sampled, detailing primary zone of activity participation, for King Range NCA study area (Summer, 1979).

| Most Important Activity[a] | Zone 1 | | Zone 2 | | Zone 3 | | Zone 4 | | Zone 6 | | Zone 8 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N[b] | Percent[c] | N[b] | Percent[c] | N[b] | Percent[c] | N[b] | Percent[c] | N[b] | Percent[c] | N[b] | Percent[c] |
| Sightseeing/auto driving | 28 | 19 | 0 | -- | 130 | 45 | 3 | 16 | 8 | 33 | 1 | 25 |
| Hiking/walking (beach) | 52 | 35 | 4 | 50 | 11 | 4 | 0 | -- | 0 | -- | 1 | 25 |
| Ocean fishing (from boat) | 1 | .7 | 0 | -- | 59 | 20 | 0 | -- | 0 | -- | 0 | -- |
| Ocean fishing (from shore) | 21 | 4 | 0 | -- | 38 | 13 | 0 | -- | 0 | -- | 0 | -- |
| Camping near auto | 11 | 7 | 0 | -- | 7 | 2 | 8 | 42 | 1 | 4 | 1 | 25 |
| Other | 6 | 4 | 0 | -- | 12 | 4 | 0 | -- | 3 | 13 | 0 | -- |
| Visiting friends/family | 0 | -- | 0 | -- | 12 | 4 | 0 | -- | 2 | 8 | 0 | -- |
| Camping away from auto (beach) | 10 | 7 | 0 | -- | 1 | .3 | 0 | -- | 0 | -- | 1 | 25 |
| Picnicking (beach) | 7 | 5 | 0 | -- | 4 | 1 | 0 | -- | 0 | -- | 0 | -- |
| Motorcycling | 1 | .7 | 0 | -- | 1 | .3 | 1 | 5 | 5 | 21 | 0 | -- |
| Camping away from auto (other) | 1 | .7 | 1 | 13 | 0 | -- | 4 | 21 | 1 | 4 | 0 | -- |
| Surfing | 1 | .7 | 0 | -- | 6 | 2 | 0 | -- | 0 | -- | 0 | -- |
| Own property | 0 | -- | 0 | -- | 6 | 2 | 0 | -- | 0 | -- | 0 | -- |
| Hiking/walking (other) | 0 | -- | 3 | 37 | 1 | .3 | 0 | -- | 1 | 4 | 0 | -- |
| Collecting resource products | 2 | 1 | 0 | -- | 1 | .3 | 0 | -- | 1 | 4 | 0 | -- |
| Picnicking (other) | 1 | .7 | 0 | -- | 0 | -- | 3 | 16 | 0 | -- | 0 | -- |
| Four-wheel driving | 1 | .7 | 0 | -- | 1 | .3 | 0 | -- | 1 | 4 | 0 | -- |
| Swimming | 3 | 2 | 0 | -- | 0 | -- | 0 | -- | 0 | -- | 0 | -- |
| Hunting | 1 | .7 | 0 | -- | 0 | -- | 0 | -- | 1 | 4 | 0 | -- |
| Freshwater fishing | 1 | .7 | 0 | -- | 0 | -- | 0 | -- | 0 | -- | 0 | -- |
| Photography | 0 | -- | 0 | -- | 1 | .3 | 0 | -- | 0 | -- | 0 | -- |
| Sample Size[d] | 148 | | 8 | | 291 | | 19 | | 24 | | 4 | |

[a]Activities which were not listed as a most important activity by any of the respondents were not included in this table.

[b]N = number of respondents.

[c]Percent values are based on the number of respondents who indicated that their most important activity participation was in that particular zone.

[d]Number of respondents who indicated that their most important activity participation was in that zone; used in calculating percents above.

Table 7. Number of nights of stay by zone for overnight visitors sampled, King Range NCA study area (Summer, 1979).

| Nights | Zone 1 | | Zone 2 | | Zone 3 | | Zone 4 | | Zone 6 | | Zone 7 | | Zone 8 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | N[a] | Percent[b] | N[a] | Percent[b] | N[a] | Percent[b] | N[a] | Percent[b] | N[a] | Percent[b] | N[a] | Percent[b] | N[a] | Percent[b] |
| 1 | 26 | 68 | 6 | 50 | 40 | 43 | 9 | 45 | 6 | 60 | 1 | 50 | 4 | 67 |
| 2 | 9 | 24 | 2 | 17 | 18 | 20 | 4 | 20 | 4 | 40 | 0 | -- | 2 | 33 |
| 3 | 2 | 5 | 3 | 25 | 10 | 11 | 3 | 15 | 0 | -- | 1 | 50 | 0 | -- |
| 4 | 0 | -- | 1 | 8 | 5 | 5 | 3 | 15 | 0 | -- | 0 | -- | 0 | -- |
| 5 | 1 | 3 | 0 | -- | 7 | 8 | 1 | 5 | 0 | -- | 0 | -- | 0 | -- |
| 6 or more | 0 | -- | 0 | -- | 12 | 13 | 0 | -- | 0 | -- | 0 | -- | 0 | -- |
| Sample size[c] | 38 | | 12 | | 92 | | 20 | | 10 | | 2 | | 6 | |
| Total overnight use[d] | 55 | | 23 | | 287 | | 43 | | 14 | | 4 | | 8 | |

[a]Number of respondents.

[b]Percentage values are based on the total number of respondents who indicated an overnight stay in the zone.

[c]Number of respondents who indicated at least one night's stay in the zone.

[d]Reflects the total number of nights spent by respondents in each zone.

[e]An overall total of 173 respondents, or 35 percent of the sample, stayed overnight at least one night in the study area.

of the respondents stayed overnight at least one night in the King Range. Also, one night was the most common response across all zones. The Shelter Cove area (zone 3) exhibited the largest number of overnight stays, followed by zones 1 and 4.

While three (people) was the average party size and average number of people per vehicle, two (people) was the party size and people per vehicle most frequently observed (Table 8). Over 50 percent of the interviews were with respondents traveling with one other person. These data also indicate an apparently strong relationship between party size and number of people per vehicle.

During the questioning interviewers also observed the vehicle type of the respondents. Cars and trucks accounted for over 75 percent of the vehicles exiting the King Range (Table 9). Vehicles typically used for off-road use (motorcycles and four-wheel drives) were driven by less than 4 percent of the respondents.

Over one-half of the people interviewed were relatively unfamiliar with the King Range area. These 58 percent were on their first visit to the King Range, while another 12 percent were visiting the area for the second time (Table 10). At the other extreme, 20 percent of the respondents visited the area frequently (five or more times) during the past year.

Tables 11 through 14 summarize the hours of recreation participation of respondents visiting the King Range. The total hours of recreation of each respondent were determined by questions ascertaining the entrance and exit time of each recreationist leaving the King Range. Table 11 exhibits the distribution of responses across each of several length-of-stay categories. While 33 percent of the users visited the study area less than two hours, 38 percent stayed at least one-half day. The average time spent by respondents visiting the King Range was 22 hours.

Table 8. Number of people per party and per vehicle, King Range NCA study area sample (Summer, 1979).

| Number of People | In Party | | In Vehicle | |
|---|---|---|---|---|
| | N[a] | Percent[b] | N[a] | Percent[c] |
| 1 | 47 | 10 | 54 | 11 |
| 2 | 257 | 52 | 254 | 54 |
| 3 | 72 | 15 | 72 | 15 |
| 4 | 52 | 11 | 48 | 10 |
| 5 | 37 | 7 | 32 | 7 |
| 6 or more | 26 | 5 | 15 | 3 |

Average party size = 3 persons

Average number per vehicle = 3 persons

[a]Number of respondents.

[b]Percentage values are based on N=491 respondents answering this question.

[c]Percentage values are based on N=475 respondents answering this question.

Table 9. Observed vehicle type of respondents visiting the King Range NCA study area (Summer, 1979).

| Method of Travel | Number of Observations | Percent[a] |
|---|---|---|
| Car | 211 | 43 |
| Truck | 166 | 34 |
| Van | 63 | 13 |
| Camper | 19 | 4 |
| Motorhome | 8 | 2 |
| Motorcycle | 16 | 3 |
| Four-wheel drive | 4 | .8 |
| Foot | 5 | 1 |

[a]Percentage values are based on N=492 total vehicle type observations.

Table 10. Number of previous recreation visits to study area by respondents sampled in the King Range NCA study area (Summer, 1979).

| Number of Previous Visits | Number of Respondents | Percent[a] |
|---|---|---|
| 0 | 277 | 58 |
| 1 | 58 | 12 |
| 2 | 16 | 3 |
| 3 | 28 | 6 |
| 4 | 4 | 1 |
| 5 or more | 97 | 20 |

[a]Percentage values are based on N=480 respondents answering this question.

Table 11. Length of stay (in hours) of respondents visiting the King Range NCA study area (Summer, 1979).

| Hours | Number of Respondents[a] | Percent[b] |
|---|---|---|
| 0-2 | 164 | 33 |
| 3-6 | 143 | 29 |
| 7-12 | 17 | 3 |
| 13-24 | 65 | 13 |
| 25-48 | 47 | 10 |
| 49-72 | 23 | 5 |
| 73 or more | 36 | 7 |

Average length of visit = 22 hours

Most frequently reported length of visit = 1 hour

[a]Number of respondents who indicated their length of visit corresponded to the number of hours specified on the adjacent hours column.

[b]Percentage values are based on N=495 respondents answering this question.

Zone visitation broken down by respondent length of stay in that zone is shown in Table 12. Zones offering the most remote recreation opportunities (2, 4, 7, 8) tended to have visitors staying longer periods of time. Other indications of zone usage are the total hours and average hours of recreation of respondents visiting each zone (Table 13). Zones 3 and 1 had the most hours of recreation participation, while respondents visiting zone 2 stayed there longer than respondents visiting other zones.

To determine if a relationship existed between the most important activity and length of stay of respondents, average total time spent in the King Range by respondents from selected most important activity groups was calculated. Table 14 indicates that campers and ocean fishermen, from boat or shore, spent the longest time in the King Range. Sightseers, as might be expected, had the lowest average time spent in the study area. There are distinct differences between respondents in different activity groups based on time spent in the study area.

## Estimates of Total Recreation Participation

Total hours of recreation participation in the King Range are summarized in two ways using data from the three exit interview stations. First, the sample data were used to determine the mean recreation participation of only those recreationists that were interviewed at each exit interview station. Second, the sample data were used to estimate total recreation participation during the sampling period (June-September) for all recreationists exiting each roadside interview station where accurate traffic counter information was available.

The sample summary and estimates of recreation participation were both determined from the exit interview data. During the interview, each

Table 12. Length of stay (in hours) of respondents visiting specific zones in the King Range NCA study area (Summer, 1979).

| | Zone 1 | | Zone 2 | | Zone 3 | | Zone 4 | | Zone 6 | | Zone 7 | | Zone 8 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hours | N[a] | Percent[b] | N[a] | Percent[b] | N[a] | Percent[b] | N[a] | Percent[b] | N[a] | Percent[b] | N[a] | Percent[b] | N[a] | Percent[b] |
| 0-2 | 61 | 45 | 0 | -- | 94 | 31 | 2 | 9 | 55 | 64 | 0 | -- | 1 | 10 |
| 3-6 | 33 | 24 | 0 | -- | 92 | 30 | 1 | 4 | 19 | 22 | 0 | -- | 2 | 20 |
| 7-12 | 2 | 2 | 2 | 15 | 22 | 7 | 2 | 9 | 3 | 3 | 0 | -- | 3 | 30 |
| 13-24 | 19 | 14 | 5 | 39 | 35 | 12 | 7 | 30 | 3 | 3 | 1 | 100 | 3 | 30 |
| 25-48 | 14 | 10 | 0 | -- | 23 | 8 | 5 | 22 | 4 | 5 | 0 | -- | 1 | 10 |
| 49-72 | 6 | 4 | 5 | 39 | 13 | 4 | 3 | 13 | 1 | 1 | 0 | -- | 0 | -- |
| 73 or more | 1 | 1 | 1 | 7 | 24 | 8 | 3 | 13 | 1 | 1 | 0 | -- | 0 | -- |
| Sample Size[c] | 136 | | 13 | | 303 | | 23 | | 86 | | 1 | | 10 | |
| Most frequently reported length of visit (in hours) | 2 | | 10 | | 1 | | 10 | | 1 | | 20 | | 10 | |

[a]N = number of respondents.

[b]Percentage values are based on the total number of respondents who indicated visitation to a particular zone. Since recreationists could visit more than one zone, the percentage totals might add to more than 100 percent.

[c]Total number of respondents who indicated visitation in each zone.

Table 13. Total hours of recreation participation, by zone, for King Range NCA study area sample (Summer, 1979).

| Zone | Number of Respondents[a] | Total Hours[b] | Average Hours[c] |
|---|---|---|---|
| 1 | 136 | 1517 | 11 |
| 2 | 13 | 531 | 41 |
| 3 | 303 | 7251 | 24 |
| 4 | 23 | 772 | 34 |
| 6 | 86 | 490 | 6 |
| 7 | 1 | 20 | 20 |
| 8 | 10 | 142 | 14 |

[a]Number of respondents indicating recreation participation in each of the listed zones. Respondents could engage in recreation in more than one zone during their visit.

[b]Based on number of hours of recreation participation indicated by each respondent recreating in the listed zone.

[c]Average hours were calculated by dividing the total hours of recreation participation per zone by the number of respondents reporting time spent in the zone.

Table 14. Average number of total hours spent at King Range NCA study area by respondents in each of the five most important activities (Summer, 1979).

| Most Important Activity | Number of Respondents[a] | Average Total Time[b] |
|---|---|---|
| Sightseeing/auto driving | 171 | 5 |
| Hiking/walking on beach | 68 | 17 |
| Ocean fishing from boat | 60 | 49 |
| Ocean fishing from shore | 59 | 36 |
| Camping near auto | 28 | 39 |

[a]Number of respondents who indicated the listed activity as their "most important" activity at the King Range study area.

[b]Calculated by computing the total hours spent at the King Range study area by respondents who listed the activity in column one and dividing the result by the number of respondents in column two.

respondent was asked how many hours he/she had spent recreating in the study area. This was then adjusted to reflect the recreation of all people in the vehicle with the respondent. Since the basic sampling unit in this study was a vehicle and estimates of use involve counts of vehicles leaving the King Range, each respondent's hours of recreation were multiplied times the number of occupants in the vehicle to determine the total hours of recreation per vehicle. (Hereafter, total hours of recreation[7] refers to the total hours summed for all occupants of a vehicle as calculated above.) To do this we have assumed that all the people in the vehicle were in the area the same amount of time as the respondent, and they were engaging in a recreation activity during that time.

Sample Recreation Participation

Table 15 presents recreation use information for each exit interview station. A distinction between recreation vehicles and all vehicles exiting the study area was made during the calculation of the use data. Recreation vehicles included only those vehicles, selected during sampling, exiting the study area in which the respondent engaged in recreation in the King Range. Summing the recreation participation per vehicle for all recreation vehicles sampled during the summer at each interview station (i.e., total sample recreation participation) and dividing this figure by the number of sampled recreation vehicles gives the mean hours of recreation participation per recreation vehicle exiting the study area from each station. The all vehicle designation included every vehicle stopped for sampling at each interview station during the summer sampling period, regardless of whether or not respondents in those vehicles indicated recreation participation.

[7]This is all referred to as to recreation participation per vehicle.

Table 15. Mean hours recreation use by station for the sample data from the King Range NCA study area (Summer, 1979).[a]

| Station | Sampled Recreation Vehicles[b] | | All Sampled Vehicles[c] | |
|---|---|---|---|---|
| | Mean[d] | Number of Vehicles | Mean[d] | Number of Vehicles |
| Thorn Junction | 70.8 | 322 | 30.8 | 740 |
| Petrolia | 26.6 | 146 | 20.9 | 186 |
| Honeydew | 24.0 | 25 | 15.5 | 39 |

[a]Data summarizes recreation use at each station only for the vehicles stopped as part of the exit interview procedure (i.e., sample data only).

[b]Only those vehicles at each station in which the respondent indicated recreation participation in the King Range.

[c]All vehicles stopped at each station during the exit interview procedure (recreation and nonrecreation visitors).

[d]Mean hours of total recreation participation per vehicle (i.e., for all occupants of each vehicle) from the sample data at each station.

A value of zero hours of recreation was included in the use calculations for those vehicles in which the respondent indicated he/she had not engaged in any recreation in the King Range study area. This distinction between the recreation traffic and total traffic was made to indicate that: (1) all vehicles exiting the study area were not necessarily there for recreation purposes; and (2) 0 hours is a legitimate response when determining recreation use from traffic counter data. In many instances, managers do not have current survey data to estimate the percentage of recreation traffic exiting an area. Frequently the only data available are counter data specifying the total traffic moving in and out of an area. Assuming the available recreation opportunities and characteristics of the recreation population are essentially the same as the year the sampling occurred, the total recreation participation can be estimated. The mean hours of recreation per vehicle can be multiplied by the number of vehicles exiting the area to give a rough estimate of total use.

The mean total hours of recreation per recreation vehicle at the Thorn Junction station is higher than the means at either Petrolia or Honeydew (Table 15). Yet, when calculations involve all the sampled vehicles, the Thorn Junction mean drops considerably due to the high volume of traffic not engaging in recreation.

Total Recreation Participation

Counter information for the summer sampling period (June 10 to September 10, 1979) was only available from the Petrolia station. Therefore, estimates of total recreation use are only available for that station. Table 16 shows the estimates of the mean and total hours of recreation participation for: (1) all recreation vehicles exiting the study area via Petrolia; and (2) all vehicles (traffic) exiting the Petrolia station. The 36,202 total hours

Table 16. Estimated mean and total hours of recreation use for vehicles exiting the King Range NCA by the Petrolia interview station (Summer, 1979).

| | Recreation Vehicles[a] | | | All Vehicles[b] | | |
|---|---|---|---|---|---|---|
| Station | Mean[c] | Number of Vehicles | Total Hours[d] | Mean[c] | Number of Vehicles | Total Hours[d] |
| Petrolia | 26.6 | 1361 | 36202 | 20.9 | 1732 | 36202 |

[a]Estimates for all the recreation vehicles (i.e., all vehicles in which respondents would indicate recreation participation in the King Range if asked) exiting Petrolia between June 10 and September 10, 1979.

[b]Estimates for all the vehicles exiting the King Range by the Petrolia station between June 10 and September 10, 1979.

[c]Mean total hours of recreation per vehicle exiting the study area.

[d]Estimate of the total hours of recreation participation of all people exiting the KRNCA by the Petrolia station between June 10, and September 10, 1979.

estimated for users exiting the Petrolia station is equivalent to 3,017 visitor days. The total hours figure for both the recreation vehicles and all the vehicles are equal because the "all vehicle" designation has 0 hours added in for each vehicle in which the respondents did not engage in recreation in the King Range. Adding 371 zeroes[7] to the recreation total hours does not change the value. Dividing the total hours by an additional 371 vehicles lowers the mean to the reported value (20.9).

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[7]The difference between the number of recreation vehicles (1,361) and all the vehicles (1,732) is 371 (Table 16).

## REFERENCES CITED

Nie. N. H., C. H. Hull, J. G. Jenkins, K. Steinbrenner, and D. H. Bent. 1975. Statistical package for the social sciences, 2nd ed., 675 p. McGraw-Hill Book Co., New York, N.Y.

EXHIBIT A

ADEQUACY OF KING RANGE EXIT

INTERVIEW SAMPLING

# ADEQUACY OF KING RANGE EXIT INTERVIEW SAMPLING

Sampling in the King Range was conducted at three interview stations on roads servicing the study area. One measure of the accuracy of the sample data for representing recreation participation in the King Range is tied to the percentage of sampling at each station. Given adequate sample sizes and the proper proportion of sampling at each station approximating the actual percentage of total use at each station, the sample data should provide an acceptable summary of King Range recreation participation. Although many variables can influence the sampling and interviewing procedures (sample selection, accuracy of data supplied by respondents, etc.), the sampling procedures incorporated in this study were designed to minimize the negative effects of these extraneous variables. Therefore, the degree to which the sample represents the actual recreation participation at each station is a major factor in determining how well the sample represents the population. The adequacy of the King Range sampling during the summer of 1979 based on the percentage sampling at each station is discussed in this section.

Ideally, researchers developing a sampling plan to survey recreation users in an area have accurate data specifying the percentage of total recreation users exiting each interview station. This allows the researcher the opportunity to allocate sampling to each station in the proper proportion to the total. Then after the sampling is completed, the known distribution of recreation participation can be compared to that obtained from the sampling to help verify the representativeness of the sample data. Like

most areas, the real distribution of recreation participation in the King Range was not known when the sampling plan was developed. The sampling schedule and sample size at each interview station were developed from vehicular volume estimates provided by the BLM in Ukiah, budgetary constraints, and the judgment of research personnel and RMS statisticians advising the study. Without knowledge of the real distribution of recreation in the King Range, there is no way to directly determine the adequacy of the sampling in this study.

Based on interviewer counts during the sampling at each station, exact data are available from which strong inferences about the representativeness of the sampling in the King Range can be made. Interviewers recorded the total number of interviews and the total traffic exiting the station during each interview period. One measure of how well the sampling was allocated to individual stations in the King Range can be determined by comparing the percentage of total interviews conducted at each station to the percentage of total traffic exiting each station. Assuming the interview periods are randomly distributed throughout the sampling period, the total traffic counts during each interview period provide a good estimate of the real distribution of traffic exiting the study area. Therefore, the proportion of total traffic exiting each interview station can be used as a standard to which the percentages of interviews at each station can be compared.

The total number of interviews and total traffic counts summed across the summer sampling period (June 10 to September 10, 1979) are listed in Table A-1. The percentage of total interviews acquired at each station are in column three of Table A-1. Seventy-seven percent of the interviews occurred at Thorn Junction, while 19 and 14 percent were obtained from

Table A-1. Exit interview station summary statistics, King Range NCA (Summer, 1979).

| Station | Total Number of Interviews[a] | Percent[b] | Total Traffic Exiting During Interview Periods[c] | Total Hours of Interviewing[d] | Total Traffic per Hour[e] | Percent[f] |
|---|---|---|---|---|---|---|
| Thorn Junction | 740 | 77 | 1,159 | 170 | 6.8 | 81 |
| Petrolia | 186 | 19 | 221 | 188 | 1.2 | 14 |
| Honeydew | 39 | 4 | 42 | 102 | .4 | 5 |

[a]Total completed interviews at each exit interview station.

[b]Percentages of total interviews at each station, based on N=965 total interviews.

[c]Direct count of traffic exiting each station during summer interviewing.

[d]Total hours of interviewing at each station during the summer.

[e]Total traffic divided by hours of interviewing.

[f]Percentage of total hourly traffic at each station, based on a total hourly traffic of 8.4 (i.e., exiting study area via all three stations).

Petrolia and Honeydew, respectively. Since an unequal number of hours were spent interviewing at each station, the total traffic counts need to be adjusted to an hourly rate to provide an accurate estimate of the distribution of total traffic exiting each interview station (column 6, Table A-1). The percentages in the last column of Table A-1 reflect the percentage of total hourly King Range traffic exiting each station. Comparison of these percentages to the actual interview percentages from each station indicates that the sampling on roads in the King Range provided a reasonably accurate distribution of interviews from each station.

While we do not have specific data to determine the adequacy of the sampling related directly to King Range recreation participation, it can be inferred from the data in Table A-1 that the sampling did produce a representative proportion of recreationists from each station. To make this statement, we assume that the interviewers randomly selected vehicles exiting the study area, and the respondents accurately stated whether they had or had not engaged in recreation in the King Range. If these assumptions are true, the accuracy of the overall sampling (discussed above) should produce an equally accurate and reliable distribution of recreation interviews. Therefore, based on data in Table A-1, it is expected that opinions of Petrolia users are slightly overrepresented, and Thorn Junction and Honeydew users are slightly underrepresented.[1] This discrepancy is considered practically negligible for the interpretation of the summary data in this report.

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[1]These are the opinions of the King Range users exiting each of the interview stations, respectively.

EXHIBIT B

KING RANGE EXIT INTERVIEW FORM

AND INTERVIEWER INSTRUCTIONS

Figure B-1
Exit Interview Form

Approved
OMB No. 040-R3857
Expires June 30, 1980

VISITOR REGISTRATION

To visit (area) _____ Location of exit _____ _____

Date _____ (Time) _____ Location of entrance _____

Starting Date _____ (Time) _____ Primary method of travel _____

Number of people in group _____ (Vehicle) _____

The primary trip purpose _____ _____

How many times visited the area in the past year

___ 1) First time ___ 3) Twice ___ 5) Four times

___ 2) Once before ___ 4) Three times ___ 6) Five or more times

Using a map of the area, list all zones traversed in sequence of travel.

| Travel Zones | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| # of nights in each | ___ | ___ | ___ | ___ | ___ | ___ | ___ | ___ | ___ | ___ | ___ | ___ | ___ |

| Travel Zones | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| # of nights in each | ___ | ___ | ___ | ___ | ___ | ___ | ___ | ___ | ___ | ___ | ___ | ___ | ___ |

NAME _____

ADDRESS _____

CITY, STATE _____ ZIP _____

Completion of this form is voluntary and is not required by law or to obtain a federal benefit.

# KING RANGE INTERVIEWER INSTRUCTIONS

The summer research in the King Range will utilize a roadside traffic-stop sampling format to interview recreationists. Interviewers will stop traffic exiting the area at designated interview sites and interview one person from each vehicle stopped.

Non-Response -- If a potential interviewer whom you have contacted decides that he/she is not interested in continuing the interview (from the beginning or at any point during the interview), thank them for stopping and record as a non-respondent in the notebook.

Notebook -- A notebook should be kept which includes the following information about each interview period. (sample)

| Date | Station | Time Interview Period Started and Total Hours | # Interviews |
|---|---|---|---|
| 3/1 | H | 9:00 (3 hours) | 85 |

| # Non-Respondents | # Rec. Interviews | # Non-Rec. Interviews |
|---|---|---|
| 2 | 65 | 18 |

| Federal, Commerical, and Local Vehicles |
|---|
| 10 |

| Total Traffic | Total Traffic Eligible for the Survey | Comments |
|---|---|---|
| 100 | 90 | |

Explanation of information recorded in the notebook. The terms that are not self-explanatory or defined here will be defined in the section labeled "selecting a sample."

Date, station, & time interview period started -- self-explanatory

# Interviews -- Total number of interviews for that day including non-respondents, non-recs. (local, commercial, etc.), rec. interviews, etc.

# Non-Respondents -- Number of people who refused to participate in the study. Only those who refused to supply the use statistic information. (We will record those who refused to provide a name and address back in Ft. Collins.)

# Rec. Interviews -- Total number of interviews where recreation participation was indicated by the respondent.

# Non-Rec. Interviews -- Number of interviews where there was no recreation. (All non-recs., including non-rec. locals or commercial, described later.)

Federal, Commercial, & Local Vehicles -- Total number of these type of vehicles passing by the interview station. A local vehicle is a vehicle which flashes its lights as it passes by. (explained later)

Total Traffic -- Total number of vehicles passing by the interview station during an interview period.

Total Traffic Eligible for the Survey -- The total number of federal, commercial, and local vehicles subtracted from the total traffic.

Counter Data -- (Read counters near interview station before and after each interview period.)

| Date | Count | Time Checked | Location | Working |
|---|---|---|---|---|
| 3/1 | 43,700 | 9:00 | W | Yes |
| 3/1 | 43,964 | 12:00 | W | Yes |

Selecting a Sample (roadside):

General Technique. Cars will be selected for interviewing at random. A vehicle will be signaled to pull off the highway into the interviewing area. Each vehicle selected for interviewing will be chosen after the previous interview has been completed. Vehicles approaching the interview station while an interview is in process will not be signalled to pull over. But, they should be counted as part of the total traffic. Government, commercial, and local vehicles (that signal) should not be stopped for interviewing. The total number of vehicles passing the interview station (whether interviewed or not) during the interview period should be tabulated on a hand counter. Only vehicles exiting the area will be stopped.

Government and Commercial Vehicles. If the next vehicle to approach an interview station is a government or commercial vehicle, and that vehicle would represent the vehicle which should be interviewed (i.e., first vehicle to approach the station after completion of previous interview), do not stop the vehicle. But, write NON-REC-C on the interview form along with the study area, date (time), and the station location. This should be done only for those commercial or government vehicles which pass by the station when a vehicle is needed for interviewing. At all other times these vehicles can be ignored. Tabulate all the commercial and non-commercial vehicles passing the interview station during the interview period using a hand counter. They should also be recorded as part of the total traffic.

Local Vehicles. Some residents in the area will live in the study area or commute to jobs in the study area. After stopping them the first time and learning that their trip purpose was non-recreational, allow them to pass by during subsequent interview periods. Tell them to flash their lights as they pass so you will know not to pull them over. If a vehicle passes your station and the lights are flashed, and that vehicle should have been interviewed next, write down NON-REC-L on the interview form. Also record the date (time), study area, station. Only record this if they would have been pulled over. Ignore at all other times. Record all local vehicles flashing their lights on the hand counter with the federal and commercial vehicles. Also, they should be recorded as part of the total traffic passing by the station during the interview period. (NOTE! The first time a local vehicle stops, they should be recorded on the interview form as a NON-REC, and counted as part of the total traffic. Do not count them this time as part of the federal, commercial, local traffic; and do not record as NON-REC-L. This only occurs when a vehicle flashes its lights.) Encourage local vehicles to stop if they have been recreating. Only tell them to flash their lights if the purpose of the trip was non-recreational.

Non-Recreationists. Any vehicle that is stopped that has not participated in recreation in the study area (on that trip) should be thanked for stopping and allowed to proceed. Record NON-REC on the form along with study area, date (time), and station.

Rain. If rain (or other adverse weather) begins during the interview period, interviewing will stop. If the rain appears to be intermittent, the interviewer should remain in the vehicle at the station and count traffic passing by. During prolonged rains, the completed interview forms can be checked for completeness and legibility.

Counters. Counters that are installed near the interview areas should be checked before and after each interview period. The counter readings should be checked and recorded as frequently as possible, any time an interviewer passes by that counter.

## Instructions

(Decision Rules for Filling Out the Front-End Questionnaire)

### Person to Inteview

Interview an adult member of the vehicle stopped. Rotate the position in the car to be interviewed (i.e., if it can be safely done, interview the driver, then the passenger, the driver, etc.).

### Introduction (example)

"Good morning, my name is John Dough and I'm a student from Colorado State University. I'm involved in conducting a study on the activities and preferences of recreationists in this area. Could you spare a couple of minutes to help us with this survey?"

(Introduction should be brief and concise--identify yourself, who you are working for, and why you are there.)

You are associated with the Forest Service and BLM only in that data gathered in the study will be presented to them. Preferably don't offer this information--it may bias the responses of the interviewee.

### Questionnaire

- Place your initials in the upper right-hand corner of the interview form.

Ask - "Was the purpose of the trip recreation?"

If no, write NON-REC on the form (discontinue interview) - record upper left on form.

If yes, proceed with questionnaire.

Ask - "Did you recreate in the King Range?"

If no, write To-From (discontinue interview) - Record upper left on form.

If yes, proceed with questionnaire.

To Visit (area): Record study area: K (i.e., King Range)

Location of Exit: Interview station (initial). Record zone number in the second space provided.

Date: Enter month and day. When day is a single digit, enter a 0 before the day. Example: July 12 = 712; July 1 = 701. Next to (time) enter the military time: 9:30 = 9:30; 2:30 p.m. = 14:30. (Record to the nearest half hour--military time only for the hours.)

Location of Entrance: Ask the respondent where they entered the area. Record the zone. Most of the time it will be the same as the exit zone.

Starting Date: Date the respondent's trip began in the area. (Time) time it began. Military time. If they are staying inside the study area for recreation purposes, this date should coincide with the time they arrived. If they are living inside the study area, the time should specify when they began that trip.

Primary Method of Travel. (Type of vehicle) Record the type of vehicle the respondent was driving. Examples: car, truck, van, camper, motorhome, motorcycle, 4-wheel, etc.

Number of People in the Group. Ask the respondent how many people are in his (her) group, and how many people are in the vehicle. Record both.

Primary Trip Purpose. Ask the question, "What activity was most important to you as a reason for visiting the area?" Show them the activity card. Record the number of the activity they give to you. Then, ask them where they recreated the most in that activity. Record zone number on second blank line. Then, ask them what other activities they participated in while visiting the area. Record the numbers of these activities in the blank space next to the zone number line.

How Many Times Visited the Area in the Past Year. Check appropriate line according to the response.

Travel Zones. Each zone on the map of the study area is listed under this question. Trace the respondent's trip on the map provided and record the respondent's best guess relating to how much time they spent in each zone. For many respondents you may not need to have them trace this information. You can determine their travel zones by just talking with them. Record the hours in each zone under the zone number provided. Only record what they have done, not what they plan to do. (Sequence of travel is not important.)

If they spend the night in the area, put an X in the zone(s) they indicate and write in the number of nights spent there. The X is placed on the map where they spent the night, with the number of nights placed next to the X. At the end of each interview or interview period, transfer the zone number and number of nights to the open space on the questionnaire in the lower right-hand corner. Record as zone/nights.

Name and Address. Explain to the person that a formal questionnaire will be mailed out in the fall and that we would like their name and address for that purpose only. The purpose of the mail questionnaire will be to tap people's satisfactions and perceptions of the area, and asking their opinions on management issues. Also, only a small sample of the people will receive the questionnaire.

After getting the name and address of the person interviewed, ask if you could get the names and addresses of the other people in the vehicle (adults) who live at a different address than the respondent. Record this information on the form in the space provided at the bottom of the page. If people are not interested, don't press them. Thank them for their time and discontinue the interview. If they give you their name and address, hand them a green card explaining the research.

--Your interview forms should be checked before they are sent to Ft. Collins.

--In the space under the starting date, subtract the starting date and time from the date above. Record this figure in the space in total hours.

Example: 2 days, 4 hours = 52.

## Things to Consider When Conducting a Roadside Traffic-Stop Interview Station

Criteria for selecting a roadside interview site.

1. Sight distance: Sight distance is necessary so flagman can be aware of approaching vehicles. Motorists need this time to slow down or react to an interview station.

2. Adequate width: Area should be wide enough to pull vehicle off road completely. Interviewer should not stand on road during interview.

3. Level road surface: The grade of the road at the interview station should be at a minimum.

Factors to consider when signaling cars to stop.

1. Be attentive to the speed of the approaching vehicle. Begin signaling earlier for faster moving vehicles.

2. Check traffic behind the approaching car. If front car is being tailgated use your judgment in considering whether to stop the car. Speed is a critical factor.

3. Signal several times to make sure you have attracted the driver's attention. Make sure the intentions of your signals are clear and understandable.

4. Do not place any signs close to your signaling position. The driver may be reading the sign as he drives by your signal. (Especially on dirt roads where only two signs are used--the "STOP WHEN SIGNALED" sign should be 50 to 100 ft. from your location. This distance increases with vehicle speed.)

5. Check the traffic before directing a vehicle to leave the interview station.

## SUMMER KING RANGE

### Activity Definitions and Descriptions

1. Camping near auto: Camping approximately 100 yards or less from auto (includes trailers, campers, car camping, etc.).

2. Camping away from auto (beach): Camping in a beach area, but away from vehicle.

3. Camping away from auto (other): Anywhere but beach.

4. Picnicking (beach): The consumption of food or drink in an area away from camp, but on the beach.

5. Picnicking (other): Anywhere but beach.

6. Sightseeing/auto driving: In this context auto driving is generally defined as driving for pleasure--sightseeing, using a vehicle.

7. 4-wheel driving: The user must have actually engaged the 4-wheel drive on the vehicle.

8. Motorcycling: Any kind.

9. Bicycling: Any kind.

10. Hiking/walking (beach): Distance is not important, but on the beach.

11. Hiking/walking (other): Anywhere but beach.

12. Collecting: Gathering resource products. Examples: mushrooms, antlers, rocks, shells, plants, animals, gold. User may be reluctant on this question. Don't ask for specific information. We just would like to know if collecting was done.

13. Ocean fishing: From shore.

14. Fresh water fishing: Any kind.

15. Hunting: Any kind.

16. Nature study: Includes a very broad spectrum of activities from interpretations to identifications, etc.

17. Historical study: Identifying, studying, and observing historical areas in the study area.

18. Photography: Taking pictures, etc.

19. Wildlife viewing: Observing wildlife (or looking for).

20. Sunbathing: Any kind.

21. Swimming: Any kind.

22. Surfing: Not body surfing; using a board only.

23. Other (list):

California - Monthly
Climatological Data

'62